

Recovery Plan Action Status

Plan Name: White-haired Goldenrod

Plan Status: Final

Plan Date: 28-Sep-93

Lead Agency: USFWS

Lead Office: Kentucky Ecological Services Field Office

(502)

695-0468)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
White-haired goldenrod (Solidago albopilosa)	1	1.1.1	Divert trails	Ongoing Current	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, USFWS Regional Office 4	Management: Habitat Maintenance and Manipulation	Contract	The Forest Service analyzes potential impacts and diverts trails (when necessary) each year Costs: three people working 4 weeks
White-haired goldenrod (Solidago albopilosa)	1	1.1.2	restrict activities in rock-shelters	Ongoing Current	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, Law Enforcement Division, U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, USFWS Regional Office 4	Management: Habitat Maintenance and Manipulation	Contract	Popular rock climbing areas in the Red River Gorge area are posted with warning signs about the presence and vulnerability of white-haired goldenrod by the Forest Service - these efforts are continued each year. Costs: expenses for law enforcement -- one person working 2 days per month
White-haired goldenrod (Solidago albopilosa)	1	1.1.3	Post signs to protect rock-shelters	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, USFWS Regional Office 4	Management: Habitat Maintenance and Manipulation	Contract	Signs are posted by the Forest Service (DBNF) as needed each year. Costs: two people working 2 weeks; \$3k for signs
White-haired goldenrod (Solidago albopilosa)	1	1.1.4	Fence populations	Ongoing Current	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, USFWS Regional Office 4	Management: Habitat Maintenance and Manipulation	Contract	The Forest Service (DBNF) fences additional populations and repairs existing fencing each year. Costs: three people working 4 weeks; \$5k for fencing (ten 100-foot-long, 7-foot-tall sections with posts and cement)

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White-haired goldenrod (Solidago albopilosa)	1	1.2	Evaluate the need to place remote sensors in rock-shelters with artifacts and S. albopilosa	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	\$7.5K for three sensors. \$3.6K for labor each year (one person, 24 days per year)
White-haired goldenrod (Solidago albopilosa)	2	1.3	Establish protected management areas	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 8 weeks; cost of surveys estimated at \$20k
White-haired goldenrod (Solidago albopilosa)	1	1.4	Ensure species' protection if Red River is dammed	Obsolete			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, U.S. Army Corps of Engineers, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	
White-haired goldenrod (Solidago albopilosa)	3	1.5	Reintroduce plants into appropriate habitat if necessary	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Center for Plant Conservation, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 2 weeks; \$1.5K some time in the future.
White-haired goldenrod (Solidago albopilosa)	2	1.6	Determine ownership and contact	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, The Nature Conservancy, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Acquisition: Other	Contract	One person working 6 days

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White-haired goldenrod (Solidago albopilosa)	2	1.7	Determine and negotiate highest level of protection	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, The Nature Conservancy, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 3 weeks per year. Estimated cost for acquisitions \$60k
White-haired goldenrod (Solidago albopilosa)	1	2.1	Update status survey	Complete	FY 2006	FY 2010	U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, The Nature Conservancy, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Research: Population Assessment, Research: Population Surveys	Contract	One person working 6 weeks; KSNPC received \$32K of showing success funds (KFO proposal) in FY07 to complete a 2-yr range-wide survey. Year 1 was completed in fall 08: 101 occurrences were visited - 46 were stable, 37 were declining, 37 were unknown (due to limited data). Year 2 was completed in December 2009 - 68 of 141 occurrences were visited, concentrating on those of unknown status and those in higher use areas of the Red River Gorge. Final ranks consisted of A (11 occurrences), AB (9), B (17), BC (14), C (10), CD (12), D (42), Historic (1), Extirpated (18), and Failed to Locate (6). More than half (78 of 141) of known occurrences were stable: A (10), AB (9), B (12), BC (11), C (6), CD (11), and D (19).

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White-haired goldenrod (Solidago albopilosa)	2	2.2	Search for new occurrences in Red River Gorge area	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, The Nature Conservancy, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Research: Population Surveys	Contract	The Kentucky State Nature Preserves Commission and US Forest Service (Daniel Boone National Forest) monitor existing populations and search for new populations each year - typically in Fall.
White-haired goldenrod (Solidago albopilosa)	2	2.3	Search for new occurrences in other areas of Kentucky	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 4 weeks each year. Incorporate with Tasks 2.1 and 3.2
White-haired goldenrod (Solidago albopilosa)	1	3.1	Set up permanent plots	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 1 week; \$0.25K for equipment
White-haired goldenrod (Solidago albopilosa)	1	3.2	Long-term demographic studies	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Research: Demographic Studies	Contract	One person working 1 week
White-haired goldenrod (Solidago albopilosa)	1	3.3.1	Determine soil characteristics	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 3 days; \$0.5K for equipment

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White-haired goldenrod (Solidago albopilosa)	1	3.3.2	Determine optimal light and moisture levels	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	Field work: One person working 1 week. Greenhouse study: One person working 3 weeks; \$0.5K for equipment.
White-haired goldenrod (Solidago albopilosa)	2	3.4.1	Study phenology and pollination biology	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 2 weeks; \$0.5K for equipment.
White-haired goldenrod (Solidago albopilosa)	2	3.4.2	Study seed bank, transport, viability, and germination	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 5 weeks over a 3-year period; \$0.75 for equipment
White-haired goldenrod (Solidago albopilosa)	2	3.5	Determine impact of herbivores	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 2 weeks over a 3-year period (incorporate with Task 3.2)
White-haired goldenrod (Solidago albopilosa)	2	3.6	Determine impact of competition	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 4 weeks; \$0.5K for equipment (incorporate with Task 3.2)

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White-haired goldenrod (Solidago albopilosa)	2	3.7	Determine genetic variability	Partially Complete	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Research: Genetics	Contract	One person working 4 weeks; \$1K for equipment
White-haired goldenrod (Solidago albopilosa)	3	4.1	Collect and deposit seeds into seed bank.	Not Started			U.S. Department of Agriculture, U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Center for Plant Conservation, Kentucky State Nature Preserves Commission, USFWS Regional Office 4	Work type not yet selected	Labor type not yet selected	One person working 2 days collecting seeds.
White-haired goldenrod (Solidago albopilosa)	1	4.2	Maintain plants ex situ	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, Center for Plant Conservation, USFWS Regional Office 4, University of Kentucky	Work type not yet selected	Labor type not yet selected	One person working 2 days collecting seeds; \$6.6K for permanent maintenance
White-haired goldenrod (Solidago albopilosa)	1	5	Provide public with information	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Public Affairs, U.S. Fish and Wildlife Service, Endangered Species Division, U.S. Forest Service, The Nature Conservancy, Kentucky State Nature Preserves Commission, USFWS Regional Office 4, Kentucky Native Plant Society	Other: Information and Education	Contract	The Forest Service and KSNPC continue to post signs at trailheads, parking lots, Natural Bridge State Resort Park Lodge, and the general Red River Gorge area that describe white-haired goldenrod and the threats to its existence. Costs: one person working 1 week per year